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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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EXAMINER

PEUGH, BRIAN R

ART UNIT	PAPER NUMBER
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2186

DATE MAILED: 03/14/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

**Office Action Summary**

Application No.

09/541,115

Applicant(s)

Grimsrud

Examiner

Brian R. Peugh

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**-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --****Period for Reply**A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136 (a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

**Status**1) ☒ Responsive to communication(s) filed on Mar 31, 20002a) ☐ This action is FINAL. 2b) ☒ This action is non-final.3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 35 C.D. 11; 453 O.G. 213.**Disposition of Claims**4) ☒ Claim(s) 1-21 is/are pending in the applica

4a) Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from considera

5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.6) ☒ Claim(s) 1-5, 8-12, and 15-19 is/are rejected.7) ☒ Claim(s) 6, 7, 13, 14, 20, and 21 is/are objected to.8) ☐ Claims \_\_\_\_\_ are subject to restriction and/or election requirem**Application Papers**9) ☐ The specification is objected to by the Examiner.10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.11) ☐ The proposed drawing correction filed on \_\_\_\_\_ is: a) ☐ approved b) ☐ disapproved.12) ☐ The oath or declaration is objected to by the Examiner.**Priority under 35 U.S.C. § 119**13) ☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).a) ☐ All b) ☐ Some\* c) ☐ None of:1. ☐ Certified copies of the priority documents have been received.2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\*See the attached detailed Office action for a list of the certified copies not received.

14) ☐ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).**Attachment(s)**15) ☒ Notice of References Cited (PTO-892)18) ☐ Interview Summary (PTO-413) Paper No(s). \_\_\_\_\_16) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)19) ☐ Notice of Informal Patent Application (PTO-152)17) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s). 520) ☐ Other:

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## **DETAILED ACTION**

### ***Claim Objections***

Claims 1, 4, 7, 8, 11, 12, 15, and 18 are objected to because of the following informalities:

The use of the phrase "predetermined amount of data" should be prefaced with --first--, since "a second predetermined amount of data" is found in subsequent claims. Appropriate correction is required.

### ***Claim Rejections - 35 USC § 102***

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

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Claims 1, 4, 8, 11, 15, and 18 are rejected under 35 U.S.C. 102(e) as being anticipated by Deshpande et al. (US# 6,317,811).

Regarding claims 1, 8, and 15, Deshpande et al. teaches receiving read transactions for data, as well as a determination step for determining whether a prefetch address in a set of prefetch addresses collides with a prefetch address in a data prefetch buffer (column 2, lines 33-49). Thus, a second transaction to a second address may hit on a prefetch address in the process of being prefetched or in line to do so. The “amount of data” as claimed is attributed to whether the data relating to an address collision has been read out or not, in which case the amount of prefetch data is zero.

Regarding claims 4, 11, and 18, Deshpande et al. teaches that each memory transaction contains a prefetch bit. The prefetch bit indicates whether data prefetching should occur, and if so, that proximate data is then prefetched (column 5, lines 39-42 & 54-58).

Claims 1-3, 8-10, and 15-17 are rejected under 35 U.S.C. 102(b) as being anticipated by Macon, Jr. et al. (US# 5,600,817).

Regarding claims 1, 8, and 15, Macon, Jr. et al. teaches a read-ahead disk caching system. When a demand address is received for data (first predetermined amount of data), corresponding cache data is returned to the requestor (column 5, lines 46-50). A length counter is used for

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determining an amount of data that has been read prior to completion of the read address command (column 6, lines 37-46).

Regarding claims 2, 3, 9, 10, 16, and 17, Macon, Jr. et al. teaches that the system for keeping track of the data that has been read uses the length counter feature (column 6, lines 37-46; column 10, lines 11-17).

### ***Claim Rejections - 35 USC § 103***

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 5, 12, and 19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Deshpande et al. (US# 6,317,811) and Macon, Jr. et al. (US# 5,600,817).

The difference between the claimed subject matter and that of Deshpande et al., disclosed supra, is that the claims recite satisfying a request for demand data based on the amount of data that has been read prior to completing reading the predetermined amount of data. Macon, Jr et al. teaches first checking a data cache for the demand data before prefetching a number of units of data, and should the demand data be found in the data cache, the data is immediately returned to the requestor (column 5, lines 46-51). Therefore it would have been obvious to one of

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ordinary skill in the art having the teachings of Deshpande et al. and Macon, Jr. et al. before him at the time the invention was made to modify prefetching scheme of Deshpande et al. to include the initial fetching of demand data as taught by Macon, Jr. et al., because then the number of clock cycles for completing a demand/prefetching request would be decreased, thus improving the efficiency of the computer system by not needlessly prefetching already present data.

***Allowable Subject Matter***

Claims 6, 7, 13, 14, 20, and 21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.

***Conclusion***

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. The prior art teaches related prefetching schemes.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian R. Peugh whose telephone number is (703)306-5843. The examiner

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can normally be reached on Monday - Thursday from 7:00am to 4:30pm. The examiner can also be reached on alternate Friday's.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Matthew M. Kim, can be reached on (703) 305-3821. The fax phone number for the organization where this application or proceeding is assigned is (703) 746-7239.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-9600.

MMK/BRP

March 7, 2002

  
MATTHEW KIM  
SUPERVISORY PATENT EXAMINER  
TECHNOLOGY CENTER 2100